

Copy 1 of 2

13 September 1963

MEMORANDUM FOR THE RECORD

SUBJECT : Information for the Purcell Panel
Recommendation

REFERENCES : A. Memorandum for the Record of CIA for
Brockway McMillan, Director, National
Reconnaissance Office, dated 11 September
1963

B. Action Under Way Responsive to the
Purcell Report Recommendations
(Attachment to Reference A

1. Reference A is a letter of transmittal for
reference B.

2. Reference B covers 19 separate actions now underway
by the NRO Staff and SAFSP. The following comments include
the technical reactions of myself,

Where we have information,
pertinent comments are made. In some areas, lack of com-
munication between the NRO Staff, SAFSP, and OSA had pre-
vented us from getting sufficient information to comment.
In such cases no comment is noted. The paragraph numbers
of reference B are given in parenthesis before each comment

(1) questions the lack of justifica-
tion of the 4-6 ft. system. The need for the broad
Coverage System with resolution performance between
the CORONA and the LANYARD system has been a
point of considerable dispute. For many uses it would
appear that the system would be worthwhile; the need
or requirement for this performance should basically
be based on NPIC findings on MURAL

(2) The Improvement on the MURAL System

The consensus is that most of the items noted
in this paragraph are not significant with respect
to over-all performance improvement, but will im-
prove peak performance. To date, little correlation
between factors to be corrected by these measures
and performance variability has been shown.

NRO review(s) completed.

25X1 [] concurs in the inclusion of crab control although it is not clearly needed at the present performance of the MURAL system. Lower altitude orbits are desirable; however, there are many trade-offs in selection in operating parameters: the orbital altitude can not be independently chosen. The corrective measures given here are to be implemented by Technical Directive of the Configuration Control Board. The required TD's are now under consideration. I understand, however, that no money is available for these additional TD's during this fiscal year.

(3) Standardize Objective Test of Quality

Some reservations have been expressed regarding the Reciprocal Edge Spread measurements and lack of correlation with MIL-STD 150A and subjective estimates of usability. A less laborious, and more acceptable test method for evaluation of actual take needs development. The remainder of the test program outlined is good.

(4) No comment.

(5) No comment.

(6) No comment. OSA has not been involved in the study on the [] Program nor on the program review presently underway.

(7) We agree firmly with the comment with regard to higher speed film. I understand that Eastman has in the laboratory an improved material at approximately twice the speed of current materials. Work is underway at Horizons Inc. on non-silver halide photosensitive material. The Horizons developments are in a very early stage at this time.

(8) The image intensifier is an obvious means of increasing effective film speed. ORD has been following the developments in this field, they do not appear to have immediate application although they might be useful in several years.

Page 2

(9) The development program on large diameter lenses appears very useful and OSA has desired to cooperate in the analyses of proposed systems. From what we know, the preliminary indications noted are valid. Ittek has been having some difficulties in manufacture of mirrors for the LANYARD System and for the 240" focal length experimental camera.

(10) We agree generally with the comments of the NRO Staff. I was under the impression of the

25X1
25X1
NRO

[redacted]
[redacted] I believe that procurement of roll-joint from Lockheed needed for pointing with Agena system is still being procured. Considering the comments on a satisfactory performance of the G-E OCV, I do not understand the continuance of the roll-joint procurement.

NR
O25X1

(11) In addition to the activities mentioned in paragraph 11, E.K. is doing some analyses work under their R & D contract. [redacted] has also been active in this field.

25X1
NRO

25X1
NRO

25X1

25X1

Page 1

The J System is currently very weight-limited. It does not appear that within the next year very much can be done in application of the measures detailed in the report without reversion to the standard MURAL Configuration.

25X1

(13) The quick reaction capability has been requested by many users. Considering targeting techniques and timing, the THOR auto-pilot changes are less necessary than the Agena programmer modifications. The results of the SSD/162 Program office study on R-2 or R-3 capability will be of great interest, as this capability should meet the needs of the community.

(14) Some of the developments needed for the Covert Satellite could quite possibly be done under the cover of a quick reaction vehicle. In this way a quick reaction vehicle could be developed. I understand that the study is on Bomb Damage Assessment rather than Post-Strike Reconnaissance.

(15) I agree with this comment.

(16) The Purcell Panel recommendation was for further development analyses on a Covert Satellite capability. The Panel assumed that the air launch was probably the best. The GD/FW (Convair) proposal of a year ago (B-58 MINUTEMAN System) was not a 300 pound payload, but rather, 1200 to 1500 pounds. We have also investigated a POLARIS/OXCART combination with around 600 pounds capability. The cost of the needed guidance system has been estimated at [redacted] rather than [redacted]. The study which OSA wishes to undertake is aimed at a better understanding of capability, cost, and guidance system needs. The proposals to NRO were for a covert launch not for a total covert operation. We agree that the operation must be completely covert. I feel that the program which we have outlined in the past is required in order to determine the possibility and

25X1
NRO

NRO
25X1
25X1
NR
O

Page 5

cost of the covert operation; the worth of having the system on hand is difficult to assess. We are proposing a symposium for defining the circumstances of operation.

(17) The Itek tests have been completed. The results conclusively demonstrate that: (a) Useful intelligence can be obtained from night light pattern photography; (b) activities at night are clearly identified; (c) lack of activity may be clearly identified. In general, the approach noted in the report is correct.

(18) No comment.

(19) No comment.


Development Division
(Special Activities)

25X1